



GRADUATE HANDBOOK 2008-2009

February 2009

Master of Arts (M.A.)
Master of Science (M.S.)
Doctor of Philosophy (Ph.D.)

School of Sustainability
Arizona State University
Mailing Address: PO Box 875502, Tempe, AZ 85287-5502
Physical Location: 800 South Cady Mall, Tempe, AZ 85281

Phone: 480-727-6963
Fax: 480-727-9902

School Web site: <http://schoolofsustainability.asu.edu>

E-mail: schoolofsustainability@asu.edu

Charles L. Redman, Ph.D.	Director	Phone: 480-965-2975	E-mail: charles.redman@asu.edu
Katherine A. Spielmann, Ph.D.	Associate Director	Phone: 480-727-6963	E-mail: kate.spielmann@asu.edu
Susan Ledlow, Ph.D.	Curriculum & Faculty Development Specialist	Phone: 480-965-8645	E-mail: susan.ledlow@asu.edu
Christopher G. Boone, Ph.D.	Graduate Committee Chair	Phone: 480-727-6755	E-mail: christopher.g.boone@asu.edu
Lisa M. Murphy	Program Development Specialist	Phone: 480-965-7255	E-mail: lisa.m.murphy@asu.edu
Michelle Wolfe	Graduate Academic Specialist	Phone: 480-965-5923	E-mail: michelle.wolfe@asu.edu
Amy Lively	Internship Coordinator	Phone: 480-965-5487	E-mail: amy.lively@asu.edu
Rebecca Folk	Administrative Assistant	Phone: 480-965-8505	E-mail: rebecca.folk@asu.edu
Rimjhim Aggarwal, Ph.D.	Graduate Committee Member	Phone: 480-965-6680	E-mail: rimjhim.aggarwal@asu.edu
Jianguo Wu, Ph.D.	Graduate Committee Member	Phone: 480-965-1063	E-mail: jingle.wu@asu.edu
Dan Childers, Ph.D.	Graduate Committee Member	Phone: 480-965-2320	E-mail: dan.childers@asu.edu
Paul Hirt, Ph.D.	Graduate Committee Member	Phone: 480-727-9084	E-mail: paul.hirt@asu.edu
Jay Golden, Ph.D.	Graduate Committee Member	Phone: 480-965-4951	E-mail: jay.golden@asu.edu
Hallie Eakin, Ph.D.	Graduate Committee Member	Phone: 480-727-7764	E-mail: heakin@asu.edu
David Pijawka, Ph.D.	Graduate Committee Member	Phone: 480-727-7319	E-mail: pjawka@asu.edu

Table of Contents

Purpose of the Handbook	1
Student Responsibility	1
Academic Integrity	1
Sexual Harassment	2
Campus Safety	2
What is the School of Sustainability?	4
Graduate Degrees Offered	4
Who Should Apply?	5
Application Deadlines	5
Application Process and Admission Requirements	5
Graduate College Requirements	5
School of Sustainability Requirements.....	6
Competencies	7
International Students.....	7
Review Process.....	7
Master’s Degrees (M.A. and M.S.)	8
Difference between M.A. and M.S.	8
Enrollment.....	8
Supervisory Committee	8
Plan of Study	9
Course and Graduation Requirements	10
Transfer Credit	15
Time Limit	16
Concurrent Master’s Degrees.....	16
Advising	16
Sample Plans of Study.....	16
Important Milestones in the Masters Plan of Study.....	18
Doctoral Degree (Ph.D.)	19
Residency.....	19
Continuous Enrollment	19
Supervisory Committee	19
Plan of Study	20
Course and Graduation Requirements	21
Transfer Credit	25
Time Limit	26
Advising	26
Sample Plans of Study.....	26
Important Milestones in the Doctoral Plan of Study	
(entering with a bachelor’s degree)	27
(entering with a master’s degree)	28
Satisfactory Academic Progress Policy	29
Grades	30
Performance and Annual Review	31
Application for Graduation	32
Tuition and Fees	32
Financial Support	33
Facilities	34
Writing Help for Graduate Students	34

SOS Travel Grants	35
SOS Faculty	35
SOS Students.....	35
University Contacts	36
Appendix A: Graduate Electives.....	37

Purpose of the Handbook

This handbook is a guide for graduate students admitted to the School of Sustainability (SOS), and for individuals who wish to apply to one of the sustainability graduate-degree programs. Each current and prospective student should consult the handbook for information about degree requirements, coursework, the assignment of advisors and committee members, comprehensive examinations, and theses and dissertations. It includes information about satisfactory performance and how the Graduate Committee will review each student's annual performance. It also provides a link to a list of SOS appointed and affiliated faculty members and their areas of expertise. Throughout the handbook students will find information about, and links to, necessary forms.

The handbook is provided as an initial resource for answers to questions about the program, but students are also encouraged to consult with an academic specialist, their advisor, or any member of the Graduate Committee. The primary reference for graduate students on rules and regulations is the Arizona State University Academic Catalog <http://www.asu.edu/catalog/>. Each student should become familiar with the Academic Catalog and the Graduate College's general requirements, found at <http://www.asu.edu/graduate>.

Once admitted to the School of Sustainability, students have access to the SOS Graduate Student Community Blackboard site, where they will be able to find many of the materials in this handbook. Admitted students can access the site through myASU at <https://my.asu.edu/>.

Student Responsibility

It is the responsibility of each student to understand and observe all procedures and requirements specified by the Graduate College and the School of Sustainability. It is a *requirement* for all SOS students to read and understand the SOS Graduate Handbook and the ASU Academic Catalog. Faculty and staff provide academic advice and assistance; however, the ultimate responsibility for meeting degree and other requirements remains with the student. All ASU students are also required to have an active ASU e-mail account and to check it frequently. Students may forward their ASU email to another preferred account. Instructions on how to do this are found at <http://asuonline.asu.edu/StudentSupport/Tutorials6/index.cfm> under "Redirecting Your ASU Email."

Academic Integrity

Graduate students are expected to be ethical in their multiple roles as students, researchers, teachers or supervisors of undergraduate students, and representatives of the School, Institute, and University. When in doubt about appropriate conduct, students should consult a faculty mentor to seek clarification. Breaches of academic integrity include, but are not limited to, the following:

- Engaging in any form of academic deceit, e.g., referring to materials, sources, or devices (camera phones, text messages, crib sheets, solution manuals, materials from previous classes, or commercial research services) not authorized by the instructor for use during an evaluation or assignment;

-
- Providing inappropriate aid to another student in connection with any evaluation or assignment;
 - Engaging in plagiarism by using the ideas, words, or data of another person or persons without full and appropriate attribution;
 - Engaging in plagiarism by claiming credit for the ideas, words, or data of another person or persons, or submitting work done by another as one's own;
 - Failing to follow ethical procedures for research involving human subjects, such as violating participants' confidentiality, or failing to maintain confidential or sensitive research data in a secure location;
 - Knowingly using data that do not meet appropriate standards for reliability and validity;
 - Failing to meet responsibilities to undergraduate students, such as failing to provide assistance during designated office hours;
 - Engaging in a romantic relationship with an undergraduate student whom you supervise or evaluate in a classroom or research setting;
 - Falsifying or misrepresenting hours or activities in relationship to an internship, externship, research assistantship, field experience, workshop, or service learning experience;
 - Repeatedly failing to meet commitments and responsibilities, such as chronically missing deadlines, or failing to provide work promised to colleagues; and
 - Behaving in a way that reflects poorly on the School, Institute, and University while conducting research or participating in community activities as a representative of the School.

The School of Sustainability has a zero-tolerance policy for any form of academic malfeasance. Penalties for unethical behavior range from being placed on academic probation to dismissal from the program. Additional information about academic integrity policies of the University is available on the Student Judicial Affairs web site at <http://www.asu.edu/studentaffairs/studentlife/judicial>.

Sexual Harassment

The University prohibits sexual harassment by employees and students and will not tolerate sexual harassment that interferes with an individual's work or educational performance or creates an intimidating, hostile, or offensive working, learning, or residential environment. Additional information can be found at <http://www.asu.edu/aad/manuals/acd/acd402.html>.

Campus Safety

To report an emergency on campus, students can simply dial 911 or use one of the emergency call boxes found on campus. Non-emergency ASU Police or campus-safety matters should be directed to 480-965-3456. ASU has an opt-in, text-message alert system by which students can choose to receive a text message from ASU in times of an emergency. To sign up for the service, visit <http://www.asu.edu/uagc/emergency/textmessaging.html>. For additional safety

resources and contacts, such as Counseling Services, Police, and Safety Escort Services, visit <http://www.asu.edu/studentaffairs/vp/safetyresources/index.htm>.

What is the School of Sustainability?

The School of Sustainability was established to educate a new generation of leaders, through collaborative learning, transdisciplinary approaches, and problem-oriented training, to address some of the most pressing environmental, economic, and social challenges of the 21st century.

SOS builds on the extensive urban-environmental research portfolio of the Global Institute of Sustainability (GIOS) <http://sustainability.asu.edu/gios>, and the vision of the New American University <http://www.asu.edu/president/newamericanuniversity>, to provide innovative education and research opportunities that will prepare students to find solutions to sustainability challenges relating to:

- Energy, Materials, & Technology
- Water Quality & Scarcity
- Loss of Habitat & Biodiversity
- Rapid Urbanization
- International Development

These challenge areas are part of the focus of the School's graduate curriculum.

The goals of SOS and GIOS include:

- Engage future leaders in academic programs that will effect positive change at local to global levels, and that embody the principles of the New American University.
- Conduct ground-breaking transdisciplinary research, work with stakeholders to exchange knowledge, and develop adaptive solutions to sustainability challenges.
- Contribute to community understanding and discourse on issues of sustainability and the interrelationships of economy, environment, and human well-being.
- Provide leadership and service to the ASU community to create a more sustainable campus and an opportunity for all ASU students to understand fundamental sustainability concepts and issues.

Graduate Degrees Offered

SOS offers the Master of Arts (M.A.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.) degrees in Sustainability. Requirements for the degree programs are described in the sections below.

The SOS graduate program is designed to increase students' understanding of systems dynamics, cascading effects, and scale, and to develop their ability to work on transdisciplinary teams to address sustainability challenges. After completing the program successfully, students will be able to:

- Understand the nature of coupled social and ecological systems;
- Evaluate the cascading effects and tradeoffs of policies, decisions, and actions related to sustainability;
- Consider scale in the design and implementation of research questions, programs, and policies;

-
- Demonstrate epistemological agility and literacy in multiple “conceptual languages;”
 - Integrate methods from multiple disciplines to design interdisciplinary research, creative activities, and applied projects;
 - Lead and participate effectively in teams comprised of members from many disciplines;
 - Communicate effectively with colleagues, policy makers, and the general public in both formal and informal settings; and
 - Employ responsible and ethical research and applied practices that consider both intergenerational and intragenerational equity in their design and implementation.

Who Should Apply?

SOS encourages applications from individuals with educational backgrounds and experience relevant to the School’s goals and challenge areas. Before applying, the prospective student should discuss with an SOS academic specialist or faculty member whether or not SOS offers a graduate degree that will meet the student’s needs. The M.A., M.S., and Ph.D. programs are offered during the day, and although there are a few online and evening courses, the programs cannot be completed online or in the evening. Answers to frequently asked questions about the application process can be found at <http://schoolofsustainability.asu.edu/faqs/graduate.php>.

Application Deadlines

For priority admission in the fall semester, complete applications must be received by **January 15th**. Students must apply directly to the ASU Graduate College <http://www.asu.edu/graduate/admissions>.

Application Process and Admission Requirements

The following information pertains to all three SOS graduate degrees.

Graduate College Requirements

All applicants must meet the basic requirements of the Graduate College <http://graduate.asu.edu/admissions/index.html>:

1. **Application.** ASU uses generic application for all graduate admissions <https://sec.was.asu.edu/dgsadmissions/Index.jsp>.
2. **\$65 application fee for domestic applicants and \$80 application fee for international applicants.** Applications submitted without the fee will not be reviewed.
3. **Official copy of transcripts.** Unofficial copies will not be accepted. Students should send transcripts from each university or college they have attended (ASU transcripts do not need to be sent). Official transcripts are normally sent from the

issuing institutions in sealed envelopes, stamped, and verified by the issuing institutions.

Mail transcripts to:

Arizona State University
Graduate College
Interdisciplinary Building, B-Wing, Room 170
P.O. Box 871003
Tempe, AZ 85287-1003

4. **US bachelor's degree.** Or the equivalent from a regionally accredited institution, or the equivalent of a US bachelor's degree from an international institution officially recognized by the country in which the institution is located. If the student is completing a bachelor's degree, a transcript will need to be sent both at the time of application and upon completion of the degree.
5. **Equivalent to a B average.** (Applies to the last sixty semester hours or ninety quarter hours of undergraduate coursework.) Students not meeting the minimum GPA requirement may still be considered, although the School may require additional documents that support the case for admission.
6. **Proof of measles immunization.** Documentation must be submitted to Student Health; see Immunization Verification at www.asu.edu/health/measles.html. This is not absolutely necessary for applying to the program, but must be on file before enrolling for courses.

All application materials submitted to the Graduate College will be forwarded to the School of Sustainability.

School of Sustainability Requirements

In addition to the Graduate College's requirements, the School of Sustainability requires the following:

1. **Official copy of General Graduate Record Examination (GRE) test scores.** Have the official scores sent directly to the Graduate College. Test scores must be received directly from the agency administering the test. For more information on the GREs visit www.gre.org, or if the student lives near ASU, www.asu.edu/uts. ASU's institution code is 4007 and the department code is 5199.
2. **Letters of recommendation.** Three (3) letters of recommendation are required and must be emailed from the recommender directly to the School of Sustainability. References should be from educators (preferred) or professionals familiar with your experience and capability for graduate work. It is highly recommended that the letters are academic in nature and address your academic experience and potential for success in a graduate program; however, we will also accept professional letters. If possible, at least one letter should be academic in nature.

Applicants will be rated on their writing ability, formal-speaking ability, reasoning and analysis, mathematics and statistics, and overall intellectual ability. Recommenders are asked to describe how they know the applicant and provide their opinion on the quality of the applicant's academic achievements, intellectual ability and capability to complete advanced work in a graduate program; aspects of the applicant's personality and character significant to graduate work; and special skills and experience as demonstrated in a vocation or profession.

There is a Recommendation Form that must be submitted along with the letter. The prospective student should complete their section on the form and then give it to the recommender to complete. The Recommendation Form can be found at http://sos.asu.edu/apply/apply_grads.php. Ask recommenders to email the form and letter of recommendation to: schoolofsustainability@asu.edu.

3. **Statement of intent.** All applicants must upload a statement of intent when completing the online application. In no more than six hundred words, students must explain why they are applying to the School of Sustainability, outline their background, describe expected outcomes from the program, identify potential faculty advisors and areas of research and study, and elaborate on how the degree will support their goals.
4. **Resume or CV (optional).** Applicants may attach their resume or curriculum vita to their application. This is not required but is recommended.

Note: Taking courses for graduate credit as an undergraduate or non-degree student does not ensure admission to the program or acceptance of the acquired graduate credits as part of the Plan of Study.

Competencies

Transcripts will be used to evaluate basic competencies for graduate study in sustainability. Students with inadequate preparation may be required to remediate deficiencies as part of their program requirements.

International Students

SOS welcomes applications from international students. International students must meet ASU's general requirements for admission into graduate programs. The ASU Graduate College has additional requirements for international students, described at <http://www.asu.edu/graduate/admissions/international.html> and on the International Student Office's web site <http://www.asu.edu/studentaffairs/ed/iso/>.

Review Process

The SOS Graduate Committee will review an application when the School of Sustainability has received all application materials from the Graduate College. The School of Sustainability and the Graduate College notify applicants in writing of the admission decision.

Master's Degrees (M.A. and M.S.)

Difference between M.A. and M.S.

Although both master's degree programs emphasize cross-disciplinary knowledge and skills, the M.A. degree is most appropriate for students inclined towards social sciences, planning, and related fields, and the M.S. degree for those inclined towards natural sciences or engineering. The core courses are identical; a student's past experience, intended focus of study, and elective preferences help determine whether the M.A. or M.S. is more appropriate.

Continuous Enrollment

Once admitted to a graduate degree program, master's and doctoral students must be registered for a minimum of one credit hour (not audit) during all phases of their graduate education. This includes periods when they are engaged in research, working on or defending theses or dissertations, taking comprehensive exams, taking Graduate Foreign Language exams or in any other way using university facilities or faculty time including the term in which they graduate. This credit must appear on the *Plan of Study* or must be an appropriate graduate-level course (e.g. 595, 695, or 795, Continuing Registration). Courses with grades of "W" and "X" are not considered valid registration for continuous enrollment purposes.

Students planning to discontinue enrollment for a semester or more must request approval for a leave of absence. Student may petition the Graduate College for a leave of absence for a maximum of two semesters during their entire program. A petition for a leave of absence, endorsed by the members of the student's supervisory committee and the head of the academic unit, must be approved by the Graduate College dean. This request must be filed and approved before the anticipated absence.

An approved leave of absence will enable students to re-enter their program without re-applying to the university. Students who do not enroll for a fall or spring semester without an approved leave of absence by the Graduate College are considered withdrawn from the university under the assumption that they have decided to discontinue their program. Students removed for this reason may reapply for admission to resume their degree program; the application will be considered along with all other new applications to the degree program.

A student on leave is not required to pay fees, but in turn is not permitted to place any demands on university faculty or use any university resources.

Supervisory Committee

Students are assigned an initial faculty advisor when they enter the program (unless one has already been identified). A student's first responsibility is to identify a faculty member who is willing to act as his or her advisor throughout the program. This advisor will typically act as chair or co-chair of the student's supervisory committee. Once a faculty advisor has been identified, students consult with the advisor to form a supervisory committee.

A supervisory committee must have at least three members, two of whom are ASU teaching faculty members; research, emeritus, or adjunct faculty members; or academic professionals. A majority of the members must be ASU teaching or research faculty or academic professionals, and the committee must be chaired or co-chaired by an ASU teaching faculty member who is a member of the SOS faculty (including affiliates) at the time the committee is formed.

The chair or co-chair of the supervisory committee must meet certain criteria. Usually, only tenured or tenure-track faculty are granted thesis-chair approval. Please check with an academic specialist about chair eligibility.

A faculty advisor should be selected by March 1st of the second semester, so that the advisor can provide effective direction for the remainder of the student's program. The remaining committee members should be selected by the time the student files a Plan of Study (end of 2nd semester), or early in the third semester. Students should submit a completed *Supervisory Committee* form (found on the SOS Graduate Community Blackboard site) to an SOS academic specialist. Signatures are required from each person who will serve on the student's supervisory committee. In addition, the committee must be approved by the School's Director and Graduate Committee Chair.

Plan of Study

A Plan of Study (POS) must be filed online with the Graduate College. The POS is a formal plan to meet degree requirements. It includes all courses to be taken and the designation of a thesis or non-thesis culminating experience. The POS is an agreement that the work specified on the POS will be sufficient for the desired degree. Master's students should submit the POS online by March 1st of the second semester and before they complete 50% of their coursework (i.e., fifteen credit hours).

The student's supervisory committee must approve the POS. The student must have regular admission status when filing the POS, which is to be submitted online at <https://my.asu.edu/>.

After filing the POS online, students should:

- print out both the course page and the approval signature page and staple them together;
- have the chair of the supervisory committee sign the pages; and
- turn in the signed forms to an academic specialist.

After the signed pages are received, the POS is reviewed by the academic specialist and then the Graduate Committee Chair or Director, for approval and signature. The School then approves the POS online, and it is routed to the Graduation Office and the Graduate College for review.

Course changes to the approved Plan of Study may be requested by accessing the online Plan of Study and submitting an online course-change request via myASU at <https://my.asu.edu/>. The course-change request must first be approved by the academic unit and then it will be routed to the Graduation Section of the Registrar's Office for processing. All other changes to the Plan of Study require that the form,

Petition to the Graduate College www.asu.edu/graduate/forms, be submitted to the Graduate College.

A Plan of Study, approved by the Dean of the Graduate College, must be on file before a thesis can be submitted for defense or before applied project or product results can be processed.

IMPORTANT NOTE: All student program forms, regardless of where they are processed, must first be submitted to an academic specialist. The academic specialist will ensure that forms are routed to the correct unit for processing.

Check Sheet

Until the Plan of Study is filed, students can track coursework requirements using the *Master's SOS Check Sheet* found on the SOS Graduate Community Blackboard site. Academic specialists will also keep track of each student's degree requirements and will keep a copy of the check sheet in the student's file. The check sheet will be used in the student's annual review. Students are encouraged to meet with academic specialists to review their check sheets.

Course and Graduation Requirements

The Plan of Study comprises a minimum of thirty-three semester hours. There are thesis and non-thesis options.

	Semester Hours	
	Thesis	Non-Thesis
Required Core Courses	15	15
Required Seminars	3	6
Required Solutions Workshops	3	6
Required Thesis	6	---
Electives (400-level or 500-level)	6	6
Total Semester Hours Required	33	33

Non-degree credit from ASU, combined with transfer from another institution, may not exceed nine semester hours on the POS. Only six semester hours of transfer credit from another institution may be included on the POS.

Required Core Courses (15 hours)

The core courses are designed to provide students from diverse backgrounds with method and theories for the study of sustainability. They explore the link between concepts of sustainability and systems approaches to knowledge, and develop the integrative methods needed to work across the disciplines on sustainability problems. The following two courses are required of all students:

SOS 510: *Perspectives on Sustainability (3) (Required for all students in the first semester)*

University-wide course covering basic perspectives on sustainability. Using case studies, faculty and students from engineering, architecture, social sciences, and natural sciences exchange ideas on the major challenges involved in creating a sustainable future at local, national, and global levels.

SOS 511: *Introduction to Research Methods in Sustainability (3) (Required for all students; it is strongly recommended that students take this the first semester)*

Introduces students to research methods, both quantitative and qualitative, that may be employed in sustainability science. The course introduces methods from the social and natural sciences; demonstrates how the appropriate choice of method depends upon its relevance to the underlying research question and the data available to address the question; and emphasizes the unavoidable role of implicit and explicit assumptions in the choice of a research method.

In addition to these two courses, students are required to take nine hours from the following courses:

SOS 512: *Sustainable Resource Allocation (3)*

Microeconomic principles of resource allocation applied to environmental goods and services; external environmental effects and environmental public goods; decision-making under uncertainty; adapting to and mitigating environmental changes.

SOS 513: *Science for Sustainability (3)*

Carbon cycle; nutrient cycles; carbon and nutrients in the oceans; climate change; oxygen and ozone; solid-waste pollution; urban-air pollution.

SOS 514: *Human Dimensions of Sustainability (3)*

Concepts and definitions of the human dimensions of sustainability; the role of attitudes and values in shaping sustainability goals, practices, and programs; the diversity of values and socio-cultural contexts relating to sustainability; bottom-up and top-down sustainable policy development, social-data-collection methodologies.

SOS 515: *Industrial Ecology and Design for Sustainability (3)*

Conceptual, ethical, and practical challenges in the design, manufacture, and lifecycle performance of products; environmental evaluation via materials-flow analysis and life-cycle assessment; global economic, environmental, cultural, and social aspects of competitive and functional product development and manufacture.

SOS 516: *Science, Technology, and Public Affairs (3)*

Political, economic, cultural, and moral foundations of science and technology policy and governance in democratic society.

- OR -

SOS 591: *Uncertainty and Decision Making (3)*

Explores uncertainty and its relationship to decision making, with a particular focus on the ways that science is applied in order to improve decisions. A central theme is the relationship among uncertainty, scientific prediction, and decision making, especially with regard to politically charged issues, e.g., as related to management of the environment.

SOS 591: *Sustainability & Enterprise (3)*

Examines the evolving interface between sustainability and human enterprise. Explores and reviews key fundamental concepts in the sustainability arena. Delves into specific case studies of attempts by current businesses to become "greener" and "more sustainable", Alternative enterprise models and examples of businesses that are using the current context to redefine the sustainability and enterprise interface will be also explored and discussed. Explores and applies an integrated approach to sustainability and enterprise.

Note: Additional courses may be added to this list.

Required Challenge-Area Seminars (3 hours for thesis option or 6 hours for non-thesis option)

Challenge-area seminars provide students with a strong foundation (content knowledge, big theory, and big studies) in the main themes of the School. Students choosing the thesis option are required to complete at least three seminar hours related to their area of focus. Students taking the non-thesis option are required to complete at least six seminar hours.

SOS 530: *International Development and Sustainability (3)*

Historical roots of the idea of development; economic theories of growth and their implications for sustainability; interrelationship among population growth, food security, poverty, inequality, urbanization, technological change, international trade, and environmental change at

local, regional, and global scales.

SOS 532: *Sustainable Urban Dynamics (3)*

Human and physical processes shaping urban ecologies and environments; human-environment interactions in the context of an urban region; effect of institutional and regulatory frameworks on the resilience and sustainability of social and urban-ecological systems; urban design, materials, transport, planning, and regulation.

SOS 533: *Sustainable Water (3)*

Hydrological, legal, political, and ecological implications of alternative water-management strategies; effect of institutional and regulatory frameworks; changes in water demand and supply due to human (population growth, economic changes) and natural (drought, climate change) factors.

SOS 534: *Sustainable Energy and Material Use (3)*

Sustainable engineering; overall energy needs and impacts; thermodynamics, heat transfer, and fluid mechanisms; atmospheric energy systems; field investigation; current and future urban energy systems.

SOS 535: *Sustainable Ecosystems (4)*

How human activities and management practices alter biodiversity, ecosystem functioning, and the provisioning of ecosystem services; use of economic and other social-science perspectives to estimate the value of ecosystem services; evaluation of options for achieving the sustainable flow of services from ecosystems.

SOS 598: *Food System Sustainability (3)*

Takes a broad view of food systems and the sustainability of such systems. Students are exposed to concepts, theory, methods and empirical analyses from diverse disciplines, including agro-ecology, agronomy, political science, agricultural economics, geography, anthropology and food and nutrition studies.

Note: Additional courses may be added to this list.

Required Solutions Workshops (3 hours for thesis option or 6 hours for non-thesis option)

Solutions workshops provide students with experience solving real-world problems that involve multiple sustainability challenges. They are problem-based and not specifically attached to a single main theme.

Students choosing the thesis option are required to complete at least three hours of solutions workshops. Students choosing the non-thesis option are required to

complete at least six hours of solutions workshops. Please check with an academic specialist for a current list of workshops offered.

Elective Courses (6 hours)

After satisfying pre-requisites and co-requisites, students must select a minimum of six semester hours from the Graduate Electives List (Appendix A). Electives should be chosen in consultation with the student's supervisory committee. With permission from the supervisory committee, other electives (not included on the list) may be selected.

Students are encouraged to take professional development courses that are appropriate to their interests (e.g., the SOS reading group, brown-bag discussion group, Preparing Future Faculty coursework <http://graduate.asu.edu/pff/>). These courses will most likely count as electives, subject to approval by the student's supervisory committee.

Thesis Option (6 hours)

Students choosing the thesis option are required to devote six hours to writing the thesis (SOS 599). Students may also register for research hours (SOS 592) with approval from their faculty advisors, but these hours are not necessary for the Plan of Study. All master's degree candidates must enroll for at least one semester hour of credit within the School of Sustainability during the semester or summer session in which the thesis is defended.

SOS 592 Research

SOS 599 Thesis

Students should submit a thesis proposal to an academic specialist for supervisory committee and Graduate Committee review and approval before they embark on research, and at least one semester before they expect to complete all of their coursework.

Master's thesis defenses are open to all members of the university community. Oral defenses are held on an ASU campus during regular business hours to facilitate student, faculty, and public accessibility.

At least three weeks prior to the oral defense, the student should send an academic specialist the thesis title page, abstract page, list of committee members, and the date, time, and location of the defense. The academic specialist will help schedule the defense location, if necessary. The academic specialist will then post the announcement on the SOS web site and send an e-mail notice to students and faculty prior to the defense.

The student's supervisory committee will conduct an oral examination in defense of the thesis. At least ten working days prior to the oral defense, the student must submit the materials for format evaluation and schedule the defense with the Graduate College. No exceptions to this rule will be made. Students should plan

ahead since the forms submitted to the Graduate College require the original signature of the committee chairperson.

Please consult the *Graduation Deadlines and Procedures* and the *10 Working-Day Calendar* on the Graduate College web site at <http://www.asu.edu/graduate/generalinfo/GradDdlns/index.html>. All theses must be formatted using a style guide and the *Format Manual* issued by the Graduate College. The *Format Manual* is available from the Graduate College and online at www.asu.edu/graduate/formatmanual. For more information on thesis style, students should consult the *Format Manual* and their faculty advisor.

After a student completes oral defense of the thesis, he or she must submit any revisions and forms required. The student must also submit the thesis to the ASU Bookstore for binding. Please consult the *Graduation Deadlines and Procedures* web site at <http://www.asu.edu/graduate/generalinfo/GradDdlns/index.html>.

Non-Thesis Option (6 hours)

Students choosing the non-thesis option will be required to complete an additional three semester hours of seminars and three semester hours of solutions workshops. The thesis substitute can be an individual applied project or product related to one of the workshops. The student's supervisory committee must approve the project or product in advance. Students should submit a proposal to an academic specialist for supervisory committee and Graduate Committee review and approval before they embark on their project or product, and at least one semester before they expect to complete all of their coursework. An oral defense of an applied project or product is required and must be completed to the satisfaction of the supervisory committee.

Students selecting the non-thesis option must complete the *Report of Final Master's Culminating Experience* form upon completion of their applied project or product. The form is available online at www.asu.edu/graduate/forms. The original form must be submitted to an academic specialist for review and approval by the Director of the School. The academic specialist will then submit the form to the Graduate College. Students should also submit a copy of their final project or product to the School of Sustainability.

Transfer Credit

Transfer credits cannot be applied toward minimum degree requirements for an ASU degree if they have been counted toward the minimum requirements for a previously awarded degree. Hours transferred from other institutions may not exceed 20% of the total minimum semester hours required for a master's degree. The inclusion of transfer courses on a Plan of Study is subject to approval from the School of Sustainability and the Graduate College.

Non-degree credit from ASU, combined with non-degree credit from another institution, cannot exceed nine semester hours on the master's Plan of Study. Additionally, transfer credits must have been earned within the time frame specified by Graduate College policy to be applied to the master's Plan of Study. That policy states that all coursework on a Plan of Study must be taken within three years of the semester during which the first course listed on the POS was taken.

Courses being transferred must meet the following requirements:

- taken at an accredited college or university
- graduate-level
- student must have obtained an “A” or “B” grade or the equivalent in the course(s)
- approved by supervisory committee as part of the Plan of Study

The taking of courses for graduate credit as an undergraduate or non-degree student does not ensure admission to the program or acceptance of the acquired graduate credits as part of the Plan of Study.

Time Limit

Students should complete the master’s degree program within three years. Exceptions must be approved by the supervisory committee and the head of the academic unit. All master’s-degree candidates must be enrolled for at least one semester hour of credit within the School of Sustainability during the semester or summer session in which the thesis is defended.

Concurrent Master’s Degrees

A master’s degree in sustainability may be taken concurrently with another master’s degree through a specific, cooperative arrangement with another ASU schools or department. Students must be admitted separately to each degree program. The Plan of Study for the M.A. or M.S. in Sustainability requires thirty-three semester hours, as stated above. A maximum of nine hours may be cross credited between degree programs, provided that the corresponding courses appear on the student’s Plan of Study in both degree programs.

Advising

To ensure that academic programs run as smoothly as possible, students should consult with their faculty advisors prior to registering for classes each semester. If they have not yet selected an advisor, they can consult with the Graduate Committee. After consulting with their faculty advisor, they should consult with an academic specialist.

Sample Plans of Study

Sample Plans of Study can be found on the SOS Graduate Community Blackboard site. These are provided as examples only. Each student’s program will be unique to the student’s individual needs and interests. The plans estimate time to complete all coursework and thesis hours. Completion of the thesis or applied project will require additional time.

The *Master’s SOS Check Sheet* on the Blackboard site includes a list of all required courses for the degree program, as well as exit requirements. All required and core SOS graduate courses are offered on a once-a-year or every-other-year basis. Thus,

failure to complete a required graduate course during the appropriate semester of enrollment may delay graduation. These tracking documents have been developed to assist students and their advisors to monitor satisfactory completion of coursework.

Important Milestones in the Masters Plan of Study

When	What	Status
Before registering each semester and as needed throughout your program	<u>Meet with Advisor/Academic Specialist</u> Meet with your faculty advisor and an academic specialist.	
By March 1 st of each year	<u>Submit Annual Review/Request for Funding</u> Submit an updated CV or resume and a completed annual review/request for funding form.	
By March 1 st of your 2 nd semester and before 50% of coursework is complete	<u>Identify Chair/Co-Chairs & Submit Plan of Study</u> Identify the chair or co-chairs of your supervisory committee. Submit your POS online. Print out the course page and signature-approval page. Gather signatures and submit pages to an academic specialist.	
When submitting POS or early in 3 rd semester	<u>Identify Supervisory Committee</u> Identify the members of your supervisory committee and turn in a signed <i>Supervisory Committee</i> form to an academic specialist.	
One semester before completing coursework	<u>Submit Thesis or Applied Project Proposal</u> Submit thesis proposal or applied project or product proposal to an academic specialist for supervisory committee and Graduate Committee review and approval.	
At least three weeks before defending thesis	<u>Apply for Graduation and Schedule Thesis Defense</u> Apply for graduation through the Registrar's Office. If pursuing the thesis option, send an academic specialist the thesis title page, abstract page, list of committee members, and date, time, and location of defense.	
At least ten working days before defending thesis (thesis option)	<u>Thesis Format Evaluation</u> Submit materials for format evaluation and schedule defense with the Graduate College.	
Upon completion of applied project or product (non-thesis option)	<u>Complete Non-Thesis Form</u> Complete <i>Report of Final Master's Culminating Experience</i> form and submit it to an academic specialist.	
Last semester by the deadline indicated in the graduation deadlines (link below)	<u>Last Steps</u> Hold oral defense of thesis or finish applied project. Submit any revisions and forms required. Submit thesis to ASU Bookstore for binding (for thesis option). Submit copy of applied project or product to School (for non-thesis option).	

Graduation deadlines:

<http://www.asu.edu/graduate/generalinfo/GradDdlns/index.html>

Doctoral Degree (Ph.D.)

Residency

At least two consecutive semesters subsequent to admission to the Ph.D. program must be spent in full-time residence at ASU. That is, the student must register for nine hours or more in each of two consecutive regular semesters. This requirement is lowered to six hours or more in each of two consecutive regular semesters if the student has an assistantship.

Continuous Enrollment

Once admitted to a graduate degree program, master's and doctoral students must be registered for a minimum of one credit hour (not audit) during all phases of their graduate education. This includes periods when they are engaged in research, working on or defending theses or dissertations, taking comprehensive exams, taking Graduate Foreign Language exams or in any other way using university facilities or faculty time including the term in which they graduate. This credit must appear on the *Plan of Study* or must be an appropriate graduate-level course (e.g. 595, 695, or 795, Continuing Registration). Courses with grades of "W" and "X" are not considered valid registration for continuous enrollment purposes.

Students planning to discontinue enrollment for a semester or more must request approval for a leave of absence. Student may petition the Graduate College for a leave of absence for a maximum of two semesters during their entire program. A petition for a leave of absence, endorsed by the members of the student's supervisory committee and the head of the academic unit, must be approved by the Graduate College dean. This request must be filed and approved before the anticipated absence.

An approved leave of absence will enable students to re-enter their program without re-applying to the university. Students who do not enroll for a fall or spring semester without an approved leave of absence by the Graduate College are considered withdrawn from the university under the assumption that they have decided to discontinue their program. Students removed for this reason may reapply for admission to resume their degree program; the application will be considered along with all other new applications to the degree program.

A student on leave is not required to pay fees, but in turn is not permitted to place any demands on university faculty or use any university resources.

Supervisory Committee

Students are assigned an initial faculty advisor when they enter the program (unless one has already been identified). A student's first responsibility is to identify a faculty member who is willing to act as his or her advisor throughout the program. This advisor will typically act as chair or co-chair of the student's supervisory committee. Once a faculty advisor has been identified, students consult with the advisor to form a supervisory committee.

A supervisory committee must have at least three members, two of whom are ASU teaching faculty members; research, emeritus, or adjunct faculty members; or academic professionals. A majority of the members must be ASU teaching or research faculty or academic professionals, and the committee must be chaired or co-chaired by an ASU teaching faculty member who is a member of the SOS faculty (including affiliates) at the time the committee is formed. It is possible to change committee members up until the student prepares to defend the dissertation.

The chair or co-chair of the supervisory committee must meet certain criteria. Usually, only tenured or tenure-track faculty are granted thesis-chair approval. Please check with an academic specialist about chair eligibility.

The faculty advisor should be selected by the end of the third semester if entering with a bachelor's degree, or by March 1st of the second semester if entering with a master's degree, so that the advisor can provide effective direction for the remainder of the student's program. The remaining committee members should be selected as soon as possible and no later than the time they file their Plan of Study or early in the third semester (if entering with a master's degree). Students should turn in a completed *Supervisory Committee* form (found on the SOS Graduate Community Blackboard site) to an SOS academic specialist. Signatures are required from each person who will serve on the student's supervisory committee. In addition, it must be approved by the School's Director and Graduate Committee Chair.

Plan of Study

A Plan of Study (POS) must be filed online with the Graduate College. The POS is a formal plan for meeting requirements, including all courses to be taken, comprehensive examination(s), the dissertation prospectus, and the dissertation. The POS is an agreement that those requirements included on the POS will be sufficient for the desired degree. Doctoral students should submit the POS online *before* they complete 50% of their coursework and by March 1st of the fourth semester if entering with a bachelor's degree, or by the end of the second semester if entering with a master's degree.

The student's supervisory committee must approve the POS. The student must have regular admission status when filing the POS. It must be submitted via myASU at <https://my.asu.edu/>.

After filing the POS online, students should:

- print out both the course page and the approval signature page and staple them together;
- have the chair of the supervisory committee sign it; and
- turn in the signed forms to an academic specialist.

After the signed pages are received, the POS is reviewed by the academic specialist and then the Graduate Committee Chair or Director, for approval and signature. The School then approves the POS online, and it is routed to the Graduation Office and the Graduate College for review.

Course changes to the approved Programs of Study may be requested by accessing the online Plan of Study and submitting an online course-change request via myASU at <https://my.asu.edu/>. The course-change request must first be approved by the

academic unit and then it will be routed to the Graduation Section of the Registrar's Office for processing. All other changes to the Plan of Study require that the form, *Petition to the Graduate College* www.asu.edu/graduate/forms, be submitted to the Graduate College.

A Plan of Study, approved by the Dean of the Graduate College, must be on file before exams (such as the comprehensives) can be taken or a dissertation can be submitted for defense.

IMPORTANT NOTE: All student program forms, regardless of where they are processed, must first be submitted to an academic specialist. The academic specialist will ensure that forms are routed to the correct unit for processing.

Check Sheet

Until the Plan of Study is filed, students can track coursework requirements using the *Doctoral SOS Check Sheet* (found on the SOS Graduate Community Blackboard site). Academic specialists will also keep track of each student's degree requirements and will keep a copy of the check sheet in the student's file. The check sheet will be used in the student's annual review. Students are encouraged to meet with academic specialists to review their check sheets.

Course and Graduation Requirements

Students may be admitted to the Ph.D. program with either a bachelor's or a master's degree from a regionally accredited institution, or the equivalent of a US bachelor's degree from an international institution officially recognized by the country in which it is located.

If admitted with a bachelor's degree, students must complete a minimum of eighty-four semester hours. If admitted with a master's degree, they must complete a minimum of fifty-four hours.

	Semester Hours	
	Admitted with a Bachelor's	Admitted with a Master's
Required Core Courses	15	12*
Required Seminars	6	3*
Required Solutions Workshops	6	3*
Required Research	12	12
Required Dissertation	12	12
Electives <i>**Of which, a maximum of 6 hours can be at the 400-level ***500-level or higher</i>	33**	12***
Total Semester Hours Required	84	54

*Assuming relevant coursework at the master's level.

Required Core Courses (12 hours if admitted with a master's and 15 hours if admitted with a bachelor's)

Required core courses are the same as those for the master's degrees. See pages 11-12.

In addition to *SOS 510* and *SOS 511*, students must take six hours if admitted with a master's degree, and nine hours if admitted with a bachelor's degree, from the list of required core courses (described on pages 11-12).

Required Challenge Area Seminars (3 hours if admitted with a master's and 6 hours if admitted with a bachelor's)

Challenge area seminars are the same as those for the master's degrees. See page 12.

Required Solutions Workshops (3 hours if admitted with a master's and 6 hours if admitted with a bachelor's)

Solutions workshops provide students with experience solving real-world problems that involve multiple sustainability challenges. They are problem-based and not specifically attached to a single main theme. Please check with an academic specialist for a current list of workshops offered.

Required Research and Dissertation (24 hours)

At least twelve hours of the approved Ph.D. program must be SOS 792 Research, and at least twelve hours must be SOS 799 Dissertation. Students may not apply semester hours earned for a Ph.D. previously awarded at ASU or another institution. At least thirty hours (which may include research credit) of the approved Ph.D. program and twelve dissertation hours must be completed after admission to a Ph.D. program at ASU. A maximum of twelve dissertation hours is permitted on the Plan of Study.

SOS 792 Research

SOS 799 Dissertation

Please see additional information about the dissertation on the following page.

Elective Courses (12 hours if admitted with a master's and 33 hours if admitted with a bachelor's)

Subject to satisfying pre-requisites and co-requisites, students admitted with a master's degree select a minimum of twelve semester hours at the 500-level from the Graduate Electives List (Appendix A). Students admitted with a bachelor's degree select a minimum of thirty-three semester hours from the list, of which a maximum of six hours can be at the 400-level. Electives should be selected in consultation with

the supervisory committee. With permission from the supervisory committee, other electives (not included on the list) may be selected.

Students are encouraged to take professional development courses that are appropriate to their interests (e.g., the SOS reading group, brown-bag discussion group, Preparing Future Faculty coursework <http://graduate.asu.edu/pff/>). These courses will most likely count as electives, subject to approval by the student's supervisory committee.

Masters in Passing *(pending approval by the Graduate College)*

The Master's in Passing (MIP) option is offered to exemplary students accepted into the Ph.D. program without a master's degree. Students who complete the requirements will be offered either an M.A. or M.S. in Passing. The Master's in Passing option is not automatically available to all Ph.D. students. To be eligible, a student must meet the following criteria, and follow these steps.

1. Complete thirty-three hours of coursework that meets the requirements for the doctoral program;

Courses taken before the student was admitted to the Ph.D. program CANNOT be used on the MIP POS. Please check with an academic specialist for more information about what can and cannot be used.

2. Have a 3.5 or higher GPA;
3. Have selected a supervisory committee;
4. Submit a portfolio for review by the supervisory committee consisting of the following work (papers should include grades received and instructor comments):
 - a. One exemplary research paper
 - b. One exemplary paper or project of an applied nature
 - c. A short paper (such as an essay or an opinion piece) or a poster
 - d. A reflective essay discussing the papers that looks back at the learning demonstrated in the pieces and forward to knowledge and skills that the student needs to develop
5. When the portfolio is approved by the supervisory committee, see the graduate academic specialist to complete a Master's in Passing Request form and obtain all relevant signatures; and
6. Apply for graduation or the MIP will not be awarded.

Please see an academic specialist for more detailed instructions.

Comprehensive Examination

When students have completed or are close to completing the coursework in an approved Plan of Study, they may request permission to take the comprehensive examinations. Ph.D. comprehensive examinations are administered by the student's supervisory committee. The student must fill out Part I of the *Report of Doctoral Comprehensive Examination* form and submit it to the examining committee chair for

signatures from the examining committee. The form can be found at <http://www.asu.edu/graduate/forms/>.

In preparation for the comprehensive examinations, the student will prepare a short research statement of approximately 600 words, and a bibliography approved by the supervisory committee. Students should request reading suggestions from committee members before creating the final bibliography for approval. Based on the research statement and bibliography, each committee member will prepare relevant questions, which the committee chair will compile into a single examination. The student will answer the questions in written format. The supervisory committee will review the written responses and assign a pass or fail designation.

Students should take the comprehensive examinations within one year of finishing their coursework. Students must petition the Graduate College to retake the comprehensive exam if they fail, and reexamination must occur no sooner than three months, and no later than one year, from the original exam date. Only one reexamination is allowed. After passing the comprehensive examination, the student should submit the form with committee signatures to an academic specialist who will forward the completed form to the Graduate College.

Dissertation Prospectus

An oral examination in defense of the dissertation prospectus is required, and will be scheduled by the supervisory committee no later than six months after a student passes the comprehensive examination. The student needs to complete Part I of the Results of the Doctoral Dissertation Proposal/Prospectus Form and submit it to the examining committee chair for approval. This form can be found online at <http://www.asu.edu/graduate/forms/>. Following approval of the dissertation prospectus, signatures of the committee should be entered in Part II of the form. The completed form should be immediately submitted by the student to an academic specialist who will forward the completed form to the Graduate College.

Admission to Candidacy

The Graduate College dean sends a letter admitting the student to candidacy after receiving the Results of the Doctoral Dissertation Proposal/Prospectus form reflecting successful approval of the prospectus. If the student fails to advance to candidacy within the time limit set by Graduate College policy (see Time Limit section below), the School may recommend withdrawal of the student from the Ph.D. program.

Dissertation

A final oral examination in defense of the dissertation is required and will be scheduled by the supervisory committee with the approval of the Dean of the Graduate College. The examination cannot be conducted earlier than six months after the student's formal admission to candidacy.

Doctoral dissertation defenses are open to all members of the university community. Oral defenses are to be held on an ASU campus during regular business hours to facilitate student, faculty, and public accessibility.

At least three weeks prior to the oral defense, students should send an academic specialist their dissertation title page, abstract page, list of committee members, and the date, time, and location of the defense. The academic specialist can help schedule the location if necessary. The academic specialist will then post the announcement on the SOS Web site and send an e-mail announcement to students and faculty.

At least ten working days prior to the oral defense, the student must submit the materials for format evaluation and schedule the defense with the Graduate College. No exceptions to this rule will be made. Students should plan ahead since the forms submitted to the Graduate College require the original signature of their committee chairperson.

Please consult the *Graduation Deadlines and Procedures* and the *10 Working-Day Calendar* on the Graduate College web site:

<http://www.asu.edu/graduate/generalinfo/GradDdlns/index.html>. All dissertations must be formatted using a style guide and the *Format Manual* issued by the Graduate College. The *Format Manual* is available from the Graduate College and online at www.asu.edu/graduate/formatmanual. For more information on dissertation style, students should consult the *Format Manual* and their faculty advisor.

After the oral defense of their dissertation, students must submit any required revisions and forms. They must also submit their dissertation to the ASU Bookstore for binding. Please consult the *Graduation Deadlines and Procedures* web site at: <http://www.asu.edu/graduate/generalinfo/GradDdlns/index.html>.

Transfer Credit

Transfer credits may not be applied towards minimum degree requirements for an ASU degree if they have been counted toward the minimum requirements for a previously awarded degree. There is an exception to this for students entering with a master's degree. At ASU, a Doctoral degree requires a minimum of eighty-four semester hours. However, the School of Sustainability allows students entering with a master's degree to apply up to thirty hours from their master's degree, so they can earn their Doctoral degree with a minimum of fifty-four semester hours.

Up to twelve semester hours of credit taken at another institution or at ASU while in non-degree status, and not counted toward a previous degree, may be counted toward the minimum semester hours required for an ASU doctoral degree. There are cases in which a petition is required to transfer credit, so please consult with an academic specialist. In all cases, the inclusion of transfer courses in a Plan of Study is subject to approval of the School of Sustainability and the Graduate College.

Courses being transferred must meet the following requirements:

- taken at an accredited college or university
- graduate-level
- student must have obtained an "A" or "B" grade or the equivalent in the course(s)
- approved by supervisory committee as part of the Plan of Study

The taking of courses for graduate credit as an undergraduate or non-degree student does not ensure admission to the program or acceptance of the acquired graduate credits as part of the Plan of Study.

Time Limit

Doctoral students must complete all program requirements within a ten-year period. The ten-year period starts with initial enrollment in the doctoral program. In addition, the student must take the final oral examination in defense of the dissertation within five years of passing the comprehensive examinations. Any exception must be approved by the supervisory committee and the dean of the Graduate College, and ordinarily involves repetition of the comprehensive examinations. To request an exception, students must submit a *Petition to the Graduate College*, available at www.asu.edu/graduate/forms.

Advising

To ensure that academic programs run as smoothly as possible, students should consult with their faculty advisors prior to registering for classes each semester. If they have not yet selected an advisor, they can consult with the Graduate Committee. After consulting with their faculty advisor, they should consult with an academic specialist.

Sample Plans of Study

Sample Plans of Study can be found on the SOS Graduate Community Blackboard site. These are provided as examples only. Each student's program will be unique to the student's individual needs and interests. The plans estimate time to complete all coursework and thesis hours. Preparation for the comprehensive exams and defending the dissertation will require additional time.

The *Doctoral SOS Check Sheet* on the Blackboard site includes a list of all required courses for the degree program, as well as exit requirements. All required and core SOS graduate courses are offered on a once-a-year or every-other-year basis. Thus, failure to complete a required graduate course during the appropriate semester of enrollment may delay graduation. These tracking documents have been developed to assist students and their advisors to monitor satisfactory completion of coursework.

***Important Milestones in the Doctoral Plan of Study
(entering with a bachelor's degree)***

When	What	Status
Before registering each semester and as needed throughout your program	<u>Meet with Advisor/Academic Specialist</u> Meet with your faculty advisor and an academic specialist.	
By March 1 st of each year	<u>Submit Annual Review/Request for Funding</u> Submit an updated CV or resume and a completed annual review/request for funding form.	
By end of 3 rd semester	<u>Identify Chair/Co-Chairs</u> Identify your chair or co-chairs of your supervisory committee.	
By March 1 st of 4 th semester and before 50% of coursework is complete	<u>Submit Plan Of Study</u> Submit POS online. Print out the course page and signature approval page. Gather signatures and submit these pages to an academic specialist.	
By March 1 st of 4 th semester	<u>Identify Supervisory Committee</u> Identify the members of your supervisory committee and turn in a signed <i>Supervisory Committee</i> form to an academic specialist.	
After completion of 33 hours (and if pursuing an MIP)	<u>Masters in Passing</u> Submit portfolio for MIP. Upon approval, file MIP POS and apply for graduation.	
Within one year of completing coursework	<u>Comprehensive Exam</u> Complete Part I of the <i>Report of Doctoral Comprehensive Examination</i> . Take comprehensive exam. Collect relevant signatures. Submit the form to an academic specialist.	
Within six months of passing comprehensive exam	<u>Defend Dissertation Prospectus</u> Defend dissertation prospectus. Following approval of the dissertation prospectus, signatures of the committee should be entered in Part II of the <i>Results of the Doctoral Dissertation Proposal/Prospectus</i> form. Submit the form to an academic specialist.	
At least three weeks before defending dissertation	<u>Apply for Graduation and Schedule Doctoral Defense</u> Apply for graduation through the Registrar's Office and send an academic specialist your dissertation title page, abstract page, list of committee members, and date, time, and location of defense.	
At least ten working days before defending dissertation	<u>Dissertation Format Evaluation</u> Submit materials for format evaluation and schedule the defense with the Graduate College.	
Last semester by the deadline indicated in the graduation deadlines (link below)	<u>Last Steps</u> Hold an oral defense of dissertation. Submit any revisions and forms required. Submit dissertation to ASU Bookstore for binding.	

Specific graduation deadlines:

<http://www.asu.edu/graduate/generalinfo/GradDdIns/index.html>

***Important Milestones in the Doctoral Plan of Study
(entering with a master's degree)***

When	What	Status
Before registering each semester and as needed throughout your program	<u>Meet with Advisor/Academic Specialist</u> Meet with your faculty advisor and an academic specialist.	
By March 1 st of each year	<u>Submit Annual Review/Request for Funding</u> Submit an updated CV or resume and a completed annual review/request for funding form.	
By March 1 st of your 2 nd semester	<u>Identify Chair/Co-Chairs</u> Identify your chair or co-chairs of your supervisory committee.	
By the end of your 2 nd semester and before 50% of coursework is complete	<u>Submit Plan Of Study</u> Submit POS online. Print out the course page and signature approval page. Gather signatures and submit these pages to an academic specialist.	
When submitting POS or early in 3 rd semester	<u>Identify Supervisory Committee</u> Identify the members of your supervisory committee and turn in a signed <i>Supervisory Committee</i> form to an academic specialist.	
Within one year of completing coursework	<u>Comprehensive Exam</u> Complete Part I of the <i>Report of Doctoral Comprehensive Examination</i> . Take comprehensive exam. Collect relevant signatures. Submit the form to an academic specialist.	
Within six months of passing comprehensive exam	<u>Defend Dissertation Prospectus</u> Defend dissertation prospectus. Following approval of the dissertation prospectus, signatures of the committee should be entered in Part II of the <i>Results of the Doctoral Dissertation Proposal/Prospectus</i> form. Submit the form to an academic specialist.	
At least three weeks before defending dissertation	<u>Apply for Graduation and Schedule Doctoral Defense</u> Apply for graduation through the Registrar's Office and send an academic specialist your dissertation title page, abstract page, list of committee members, and date, time, and location of defense.	
At least ten working days before defending dissertation	<u>Dissertation Format Evaluation</u> Submit materials for format evaluation and schedule the defense with the Graduate College.	
Last semester by the deadline indicated in the graduation deadlines (link below)	<u>Last Steps</u> Hold an oral defense of dissertation. Submit any revisions and forms required. Submit dissertation to ASU Bookstore for binding.	

Specific graduation deadlines:

<http://www.asu.edu/graduate/generalinfo/GradDdlns/index.html>

Satisfactory Academic Progress Policy

Academic excellence is expected of students doing graduate work. Failure to adhere to the policies below may result in academic probation or a recommendation to the Graduate College for withdrawal from the degree program.

The following policies pertain to doctoral and master's programs:

- Minimum GPA: To be eligible for a degree, a graduate student must achieve a grade-point average of 3.25 or better in all courses numbered 500 and above, and in all work specifically included in the Plan of Study. Two different grade-point averages are computed: 1) the overall graduate grade-point average in all courses numbered 500 or higher that appear on the transcript, and 2) the grade-point average in all courses that appear on the Plan of Study. Students must also maintain a grade-point average of 3.00 or better in all post-baccalaureate courses at ASU.
- Incomplete Grades: Students have one calendar year in which to complete a course that was designated as incomplete (I). Once coursework has been fulfilled, a grade will be assigned. If the student does not complete coursework within one calendar year, the incomplete will become permanent and the student will have to re-take the course if it is a required course.
- Individual Course Grades: A grade of C is not allowed on any courses within a student's Plan of Study. If a student receives a C, he or she must re-take the course or seek approval from the Graduate Committee to remove the course from the Plan of Study.

The following policies pertain to the master's programs only:

- Time Limit for Submitting a Proposal for the Thesis or Applied Project/Product: Master's students are encouraged to submit their thesis or applied project or product proposal before they complete their Plan of Study.
- Time Limit for Completing the Master's Degree: Students should take no more than three years to complete the master's program.

The following policies pertain to the doctoral program only:

- Time Limit for Passing Comprehensive Exam: Students should take the comprehensive exam within one year of finishing their coursework.
- Retaking the Comprehensive Exam: Students must petition the Graduate College to retake the comprehensive exam, and reexamination must occur no sooner than three months and no later than one year from the original exam date. Only one reexamination will be approved.
- Time Limit for Defending the Dissertation Prospectus: Ph.D. students should defend the dissertation prospectus within six months of passing the comprehensive exam.
- Time Limit for Completing the Doctoral Degree: Doctoral students must complete all program requirements within a ten-year period. The ten-year period starts

with initial enrollment in the doctoral program. In addition, the student must take the final oral examination in defense of the dissertation within five years of passing the comprehensive examinations.

Grades

The final passing grade for Research (SOS 592, 792), Thesis (SOS 599), Practicum (SOS 580), Reading and Conference (SOS 590, 790), and Dissertation (SOS 799) is Y (satisfactory). No grade (Z or Y) is given for continuing registration (SOS 595, 795). Reading and Conference (SOS 590, 790) may be taken for a letter grade if approved by the instructor.

Performance and Annual Review

To ensure that students complete their degrees in a timely manner, get the most out of their experience at SOS, and meet requirements of the degree and School, the Graduate Committee will review student progress annually. Students who are not making satisfactory progress may be dismissed from the program, according to university regulations.

Annual Review

Annual reviews will be conducted in March of each year. The Graduate Committee will review the following documents when assessing students' progress:

- Check Sheet (provided by an academic specialist)
- Transcript (provided by an academic specialist)
- Comments (provided by SOS faculty)
- Updated CV or resume (provided by the student by March 1st)
- Completed Annual Review/Request for Funding Form (provided by the student by March 1st)

The Graduate Committee will provide to each student, in writing, the results of the annual review.

Probation Policy

A student may be placed on academic probation if:

1. The student's GPA in all courses numbered 500 and above and in all work specifically included in the Plan of Study falls below a 3.25;
2. The student's overall GPA for all post-baccalaureate courses taken at ASU falls below 3.00;
3. The student receives a C, D, or E, in a course on their Plan of Study; or
4. The student fails to complete the program within specified time guidelines and does not meet milestones specified in the graduate handbook.

Students will be notified by mail when first placed on probation and will be required to complete a Probation Agreement with their faculty advisor or the Graduate Committee. Students on probation must meet monthly with their faculty advisor or the Graduate Committee member handling their probation agreement to ensure satisfactory progression. A student placed on probation will remain on probation until performance improves and requirements have been met. Students have one semester to advance to good standing before termination is considered. The Graduate Committee will notify the student in writing when he or she advances to good standing.

A student may be recommended for withdrawal from the graduate program if:

1. The student is on academic probation because his or her GPA has fallen below 3.25 in the approved Plan of Study or 3.00 for all post-baccalaureate courses taken at ASU, and the student fails to bring the GPA to required levels by the time the next nine semester hours are completed (continuing registration, research, and thesis/dissertation hours cannot be included in these nine hours);

-
2. The student receives a C or lower grade while on academic probation for any reason;
 3. The student fails to meet milestones specified in the graduate handbook; or
 4. The student fails to meet conditions stipulated in their Probation Agreement.

Students will be notified by mail if they are being recommended for withdrawal from the program.

A student may appeal any action concerning academic probation and withdrawal by petitioning the Graduate Committee using the petition form found on the Graduate Community Blackboard site. Approval of petitions is not guaranteed.

Application for Graduation

Students should apply for graduation during the semester of planned graduation and no later than the date specified in the most current version of the Graduate College's Graduation Deadlines and Procedures at <http://www.asu.edu/graduate/generalinfo/GradDdlns/index.html>.

The Graduate Application for Graduation is available from the Graduation Office, located in the Student Services Building. Additional instructions on applying for graduation are online at <http://graduate.asu.edu/generalinfo/GradDdlns/index.html>.

Tuition and Fees

Students can find information on tuition and fees at http://www.asu.edu/sbs/tuition_semester_selection.html. Currently, the School of Sustainability does not have a program fee for the M.A., M.S., or Ph.D. in Sustainability, and uses general graduate tuition and fee rates for courses with the SOS prefix.

Financial Support

Students seeking financial support should ask the academic specialist and faculty advisor about available research and teaching assistant opportunities, news about fellowships and awards, and employment possibilities. Applicants to the program will automatically be considered for funding available through SOS at the time their applications are reviewed. SOS aims to provide financial support opportunities for students in sustainability programs, but admittance into the programs is not a guarantee of funding. Not all students will receive financial support through the School.

Students should also visit the Graduate College's web site and other links for student funding resources:

- **The ASU Division of Graduate Studies Financial Support Office**
<http://www.asu.edu/graduate/financial/index.htm>
- **IGERT (Integrative Graduate Education and Research Training) Urban Ecology Program**
<http://sustainability.asu.edu/igert>
- **National Science Foundation Graduate Research Fellowship Program**
<http://www.nsf.gov/grfp>
- **Jacob Javits Fellowships**
<http://www.ed.gov/programs/jacobjavits/index.html>
- **U.S. EPA National Center for Environmental Research – STAR (Science to Achieve Results) Fellowship for Graduate Environmental Study**
<http://es.epa.gov/ncer/fellow/>
- **National Institutes of Health Grants**
<http://grants1.nih.gov/grants/index.cfm>
- **National Research Service Award (NRSA) Research Training Grants and Fellowships**
<http://grants.nih.gov/training/nrsa.htm>
- **Cornell University Graduate School Fellowship Database**
<http://www.gradschool.cornell.edu/?p=132>
- **Michigan State Information Page on Graduate Scholarships, Fellowships, and Loans**
<http://www.lib.msu.edu/harris23/grants/3gradinf.htm>
- **Federal Student Aid (Student Loans)**
<http://www.fafsa.ed.gov/>
- **Working at ASU**
<http://www.asu.edu/workingatasu/>
Positions that are ideal for graduate students are listed under the "Staff Jobs" search and are usually titled "Management Intern." At least 50%-time jobs include benefits and reduced in-state tuition.

Facilities

ASU has a large and diverse graduate student body. More than 12,000 students from 140 countries choose ASU to pursue their graduate degrees. The university has excellent library and laboratory facilities, as well as outstanding computing infrastructure, all of which foster a stimulating environment for graduate education and research.

The School of Sustainability is located in the Global Institute of Sustainability building, which is highlighted at <http://sos.asu.edu/school/facilities.php>. Of particular interest to graduate students is the second-floor Synthesis Center, which is available to provide individual and collaborative work space to students in the SOS graduate program. There is wireless access throughout the building and a data lab with computers and printers on the third floor that is available to SOS graduate students.

Access

Graduate students who have been admitted may request 24-hour access to the second and third floors.

Reserving Conference Rooms

Graduate students may reserve the second floor conference room (GIOS 211). Reservation requests should be made to the fourth-floor receptionist.

Locker Policy

Lockers are available in the Synthesis Center on a first come, first served basis. Students will need to bring their own locks and if they are using a locker on a regular basis, they should let an academic specialist know which locker number they are using.

Writing Help for Graduate Students

The School employs a writing tutor, Kathryn Kyle, to help graduate students communicate accurately, clearly, and persuasively. The service is instructional, not editorial.

The tutor can help you:

- Use English correctly
- Communicate information and ideas clearly
- Structure a paper effectively
- Make a convincing argument

To meet with the tutor, you will need to make an appointment at least twenty-four hours in advance.

- Appointments are available:
Monday, Wednesday, Friday 10:00 a.m.-2:00 p.m.

-
- Tuesday, Thursday 10:00 a.m.-4:00 p.m.
- To schedule an appointment:
E-mail kkyle@asu.edu
Attach a copy of the work with which you want help
 - Requests for an appointment are answered Monday-Friday, but not evenings or weekends.

Online resources helpful in writing papers and theses are available on the graduate student portion of the SOS website.

SOS Travel Grants

The School of Sustainability supports limited ASU student travel to sustainability-related conferences and other professional-development opportunities (workshops, seminars, lectures, expos, etc.). More information can be found on the travel-grant application on the SOS Graduate Student Community Blackboard site.

SOS Faculty

A current list of SOS and affiliated faculty can be found at <http://schoolofsustainability.asu.edu/faculty/index.php>.

SOS Students

A current list of SOS graduate students can be found at <http://sos.asu.edu/students/index.php>.

University Contacts

	Area Code (480)
ASU Switchboard	965-9011
Bookstore http://bookstore.asu.edu/asu/home.aspx	965-3191
Campus Health Services http://www.asu.edu/studentaffairs/health/	965-3346
Career Services http://www.asu.edu/studentaffairs/career/	965-2350
Counseling and Consultation http://www.asu.edu/studentaffairs/counseling/	965-6146
Disability Resource Center (DRC) http://www.asu.edu/studentaffairs/ed/drc/	965-1234
Graduate College – Admissions http://graduate.asu.edu/admissions/	965-6113
Graduate College – Student Academic Services http://graduate.asu.edu/current/sas.htm	965-3521
Graduate College - Format Evaluation http://graduate.asu.edu/graddeadlines.html	965-3521
Graduate and Professional Student Association http://www.asu.edu/gpsa/	727-9870
Graduation Office (Registrar) http://students.asu.edu/registration	965-3256
International Student Office http://www.asu.edu/studentaffairs/ed/iso/	965-7451
Meal Plans http://www.campusdish.com/en-us/CSMW/ArizonaState	965-3463
Parking and Transit Services http://pts.asu.edu/	965-6406
Public Events (Gammage) http://www.asugammage.com/index.php	965-5062
Records (Academic) http://students.asu.edu/student-records-grades	965-3124
Residency http://students.asu.edu/residency	965-7712
Residential Life http://www.asu.edu/studentaffairs/reslife/	965-3515
Scholarship Office http://students.asu.edu/scholarships/general-application	965-4845
Student Accounts http://www.asu.edu/sbs/	965-6301
Student Employment http://students.asu.edu/student-employment	965-5186
Student Financial Assistance http://students.asu.edu/financial-aid	965-3355
Student Recreation Complex http://src.asu.edu/	965-8900
Sun Card Office http://www.asu.edu/purchasing/suncard/	965-2273
Sun Devil Ticket Office http://thesundevils.cstv.com/tickets/asu-tickets.html	727-0000
Testing Services, University http://www.asu.edu/uts/	965-7146
University Technology Office https://uto.asu.edu/mediawiki/index.php/Main_Page	965-6500

Appendix A: Graduate Electives

Students should consult with their faculty advisor and supervisory committee on selection of these courses – they will need to approve them as appropriate electives. Students are not limited to these courses. They may select other courses that fit within their Plan of Study, subject to approval.

Ph.D. in Sustainability			
M.A. in Sustainability		M.S. in Sustainability	
APH 411/ PLA 310	History of Landscape Architecture (3)	ASB 546	Pleistocene Prehistory (3)
APH 414 / PUP 412	History of the City (3)	ASM 456	Infectious Disease and Human Evolution (3)
APH 511	Energy Environment Theory (3)	ATE 451	Building Systems I (3)
ASB 416	Economic Anthropology (3)	ATE 452	Building Systems II (3)
ASB 417	Political Anthropology (3)	ATE 521	Building Environmental Science (3)
ASB 529	Culture and Political Economy (3)	ATE 591/691	Energy & Climate III (3)
ASB 530	Ecological Anthropology (3)	BIO 410	Techniques in Wildlife Conservation Biology (3)
ASB 531	Anthropology of Development (3)	BIO 411	Advanced Conservation Biology I (3)
ASB 544	Settlement Patterns (3)	BIO 412	Advanced Conservation Biology II (3)
ASB 546	Pleistocene Prehistory (3)	BIO 421 / BIO 521	Landscape Ecology (3)
ASB 555	Complex Societies (3)	BIO 424	Mathematical Models in Ecology (4)
ASB 591	City and Environment (3)	BIO 426	Limnology (4)
ASB 591	Institutional Analysis (3)	BIO 428	Biogeography (3)
ASB 591	Invention and Innovation in Ancient and Modern Societies (3)	BIO 494 / BIO 598	Soil Ecology (4)
ASB 591	Work, Consumption and Environment (3)	BIO 498	Urban Ecological Systems
ASM 456	Infectious Disease and Human Evolution (3)	BIO 498	Plant Ecology
BIO 494 / BIO 591	Environmental Ethics and Policy Goals (2)	BIO 515 / GLG 547 / PAF 547	Science, Technology, and Public Affairs (3)
BIO 498	Environmental History	BIO 520	Biology of the Desert (2)
BIO 498	Environmental Ethics	BIO 522	Populations: Evolutionary Ecology (3)
ECN 436	International Trade Theory (3)	BIO 524	Ecosystems (3)
ECN 453	Government and Business (3)	BIO 526	Quantitative Ecology (3)
ECN 541	Public Economics (3)	BIO 529	Advanced Limnology (3)
ECN 760	Economics of Growth and Development (3)	BIO 566	Environmental Physiology (3)
EPD 712	Current Research in Planning (3)	CEE 557	Geo-environmental Engineering (3)
GCU 421	Geography of Arizona and Southwestern US (3)	CEE 598	Sustainable Transportation Systems (3)
GCU 425	Geography of the Mexican American Borderland (3)	CEE 598	Sustainable Engineering (3)
GCU 441	Economic Geography (3)	ECN 436	International Trade Theory (3)
GCU 474 / GCU 598	Public Land Policy (3)	ECN 541	Public Economics (3)
GCU 515	Human Migration (3)	FSE 598	Engineering Entrepreneurship (3)
GCU 591 / SOS 591	Human Dimensions – Environmental Systems	GCU 441	Economic Geography (3)
GCU 591	New Urbanism (3)	GCU 474 / GCU 598	Public Land Policy (3)
GCU 598	Water Resource Geography and Policy (3)	GCU 515	Human Migration (3)
HST 591	Environmental History Research Seminar (3)	GCU 526	Spatial Land-Use Analysis (3)

Graduate Electives (continued)

Ph.D. in Sustainability			
M.A. in Sustainability		M.S. in Sustainability	
HST 598	Environmental History	GLG 470	Hydrogeology (3)
JUS 405	Economic Justice (3)	GLG 481	Geochemistry (3)
JUS 430	Social Protest, Conflict, and Change (3)	GLG 598	Remote Sensing (3)
JUS 444	Environment and Justice (3)	GPH 405	Energy and Environment (3)
JUS 591/691	Globalization and Economic Justice	GPH 411	Physical Geography (3)
LAW 631	Environmental Law (3)	GPH 414	Climate Change (3)
LAW 639	Natural Resource Law (3)	GPH 481	Environmental Geography (3)
LAW 643	Water Law (3)	GCU 591	Urban Climatology (3)
PAF 504	Public Affairs Economics (3)	HPS 402	Technology, Society, and Human Values (3)
PAF 530	Management of Urban Government (3)	IEE 598	Sustainable Supply Network (3)
PAF 531	Community Conflict Resolution (3)	PLB 430	Statistical Analyses in Environmental Science (3)
PAF 533	Urban Growth Administration (3)	PLB 434	Landscape Ecological Analysis and Modeling (3)
PAF 536	Urban Policy Making (3)	POS 598 / PAF 591 / HPS 598	The Role of Experts in the Public Policy Process
PAF 546	Environmental Policy and Management (3)	PUP 442	Environmental Planning (3)
POS 426	Elements of Public Policy (3)	PUP 444	Preservation Planning (3)
POS 598 / PAF 591 / HPS 598	The Role of Experts in the Public Policy Process	PUP 461	Urban Planning IV (4)
PUP 425	Urban Housing Analysis (3)	PUP 542	Environmental Administration and Planning (3)
PUP 434	Urban Land Economics (3)	PUP 575	Environmental Impact Assessment (3)
PUP 444 / PUP 598	Preservation Planning (3)	PUP 642	Land Economics (3)
PUP 445	Women and Environments (3)		
PUP 510	Citizen Participation (3)		
PUP 542	Environmental Administration and Planning (3)		
PUP 598	International Planning and Development (3)		
PUP 642	Land Economics (3)		